PRIVATE SECTOR CONSTRUCTION EXPENDITURES INDUCED BY SELECTED NATIONAL HERITAGE LOCATIONS IN THE ATLANTIC REGION

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Appendix

1. Literature Review

Private Sector Construction Expenditures Induced by Selected National Heritage Locations in the Atlantic Region

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Economic impact models developed by the Canadian Parks Service to estimate the impacts of expenditures associated with national heritage locations do not include any provision for investment expenditures made by the private sector or provincial governments because of these national heritage locations. Since these "induced investments", occurring as a result of the presence of Canadian Parks Service heritage locations, have not been quantified in the national economic impact methodology, the economic impacts may have been underestimated.

Most economic impact models are static, and assume that further investment in capital facilities is not required to accommodate increased demand. In other words, they assume sufficient spare productive capacity. Typically, these models measure short term effects of expenditures on such factors as income, employment and GDP, but do not estimate new capital development which may be required over the longer term.

This report presents the results of a study to estimate the induced investment effects of three national heritage locations: Prince Edward Island National Park; Cape Breton Highlands National Park; and the Fortress of Louisbourg National Historic Park. The purpose of the study was to develop a methodology and estimates of the value of the proportion of public (provincial government) and private sector induced investments which could be considered attributable to these sites. Specific areas of Prince Edward Island and Nova Scotia were designated as the regions in which to identify induced investment expenditures.

The report contains information on other economic impact studies; the municipal building permit systems in Prince Edward Island and in Nova Scotia; a review of the methodology employed in this study for estimating the induced investments; and the estimates themselves.

LITERATURE REVIEW

Through a survey of the literature and through contact with tourism and parks research officers in various provincial departments and agencies, it became apparent that there are very few studies which have included the concept of induced investment. Appendix 1 contains a review of those reports with some information on induced investment relevant to this study. Brief highlights of the three most important studies are presented here:

1. Tourism Impact Model, Project 5-12-1258, Bureau of Management Consulting, Department of Supply and Services, December, 1975, for the Canadian Government Office of Tourism.

Although this model was developed in 1975, the theory on which it is based is still useful. The model is structured for application at the provincial level. It consists of two sets of equations: 1) various sectoral investment functions (which are estimated econometrically); and 2) current economic impact equations (derived from input-output models).

Concentrating on the investment functions, the investment equations estimate the expected capital feedback which results from current economic activity in each of the tourism related sectors. Investment induced in tourist-related sectors by the spending of tourists (as differentiated from local demand) is added to the estimates of impacts (i.e., through the input-output analysis of expenditures). The value of this induced investment is also produced as an output on its own by the model.

The econometric model (investment functions) is based on a series of equations derived by ordinary least squares regression. The dependent variable is investment, and the explanatory variables are:

- sales
- interest rates
- "accelerator" terms.

Investment is determined by the model for four sectors:

* Accommodation, Food and Beverage
* Private Automobile Transportation
* Air Transportation
* Recreation, Entertainment and Other.

Four sets of equations are used to derive coefficients of investment effects. Sales in accommodation, food and beverage "drive" the other sectors (as well as its own) since total sales in commercial accommodation and restaurants were found to have a high degree of correlation with the level of investment in the other sectors.

Sources of data are Statistics Canada publications and the Bank of Canada. To generate the investment coefficients, regression analysis of the data covering 1960 - 1974 was undertaken. Once it was complete, the model used Nova Scotia as a test area.

The advantages of this model of tourism impacts is that it incorporates the investment effects/impacts. It is also based on published data and it is almost the only study which directly addresses induced investment effects.

For the purposes of this study, however, the model has several disadvantages:

* it is conceived at the provincial level rather than at the regional or local level;

* the exogenous variable that activates or runs the model is visitor spending, with no account being taken of Parks spending (whether or not this is important is difficult to tell, but there is no capacity to include such spending);

* the model has not been updated since its inception (it still uses coefficients based on 1960 - 1974 data).

* some of the types of investments to which it refers include components of the tourism sector infrastructure which have little to do with Parks (convention centres, major hotels, etc.).

2. Private-Sector Construction in Banff, Jasper and Waterton National Parks in Alberta: Economic Impacts, Thompson Economic Consulting Services for the Canadian Parks Service, May, 1989.

This report presents the results of a study to determine the significance of park-induced spending by the private sector in construction projects within Banff, Jasper and Waterton National Parks. The study was essentially comprised of two steps:

1) the gathering of information on the value of private sector construction through an examination of building permits; and

2) assessment of the economic impact of this spending.

Information was collected on all building permits issued within the national parks only, although these were broken down into different areas of the parks (e.g., Banff townsite; Lake Louise; ski areas; Jasper townsite; etc.). No spending by federal or provincial governments was included in the analysis. Park-induced private-sector development was assumed to be the following: 1) only residential projects more than $25,000; and 2) all commercial projects.

The period of analysis was 1984/85 - 1988/89, with all construction values converted into 1988 dollars.

Multipliers for residential and non-residential construction were developed and applied to estimate annual impacts from the construction values obtained for each year.

Notwithstanding comments to the contrary, an advantage of this methodology is that there are few problems in attributing the construction values to the national parks, since these expenditures occurred within the parks' boundaries. If the information is available, the analysis is relatively straightforward. It is also believed that both new construction and renovations were included in the analysis.

There are some disadvantages to this approach, however:

* the value of residential construction which was used as the cut-off ($25,000) seems to be too high (a significant amount of residential construction may have been omitted through the use of this value);

* no account is made for any private sector investment in the area surrounding the parks;

* although discussed in the text, no account is made for any provincial government expenditures in long term infrastructure;

* the parks examined are different from most national parks in that they have significant private sector investment within their boundaries (as such, they represent a special case rather than the normal situation).

3. Sault Ste. Marie Canal: Socio-Economic Impact Evaluation, Appendix 5, P.G. Whiting and Associates for the Canadian Parks Service, Ontario Region, May, 1989.

Appendix 5 of this report is entitled "Indirect and Induced Investment Effects of the Sault Ste. Marie Canal", and was written with the objective of determining the extent to which the Sault Ste. Marie Canal generated private sector investment in the Sault Ste. Marie tourism industry. There were three approaches used in the gathering of information: Business Investment Decision (interviews with investors); Total Commercial Construction (analysis of building permits); and Comparative Approach (literature review and application of other study results). Results of these approaches can be summarized:

1) Business Investment Decision
It appeared that tourism investment decisions were being made regardless of the existence of the Canal.

2) Total Commercial Construction
Four years of data were examined (1984 - 1988). Tourism sector construction was identified and valued for each year. The portion of this investment attributed to the Canal was based on the proportion of tourists' discretionary time spent at the Canal in relation to their time spent in the whole City of Sault Ste. Marie (0.9%). The result was a very small level of private-sector investment attributable to the Canal (approximately $26.000 per year).

3) Comparative Approach

Searches revealed that no useful comparable or applicable research was available.

Based on the integration of results from approaches 1) and 2), it was concluded that the Canal had induced only a minimal level of private-sector investment in tourism facilities.

The advantage of the methods adopted in this study was that three approaches were employed, with the ability to combine results from these approaches. It also seems to be a logical tactic to speak directly with those individuals making the business investments to determine how important the Canal was in their decisions. In addition, building permit information in a reasonably small jurisdiction can be accessed fairly readily (especially when it is computerized and contains sufficient information).

Disadvantages of this approach include:

* because it was an innovative study, none of the methods appear to be flawless (although an answer was developed, there were still many uncertainties);

* some building permit information is confidential and may not be as accessible in all jurisdictions;

* past investments, when the facility may have been a more important part of the tourism infrastructure, are not incorporated into the analysis;

* the report points to the need for further research, without coming to any conclusions on the validity of any of the approaches.

BUILDING PERMIT SYSTEMS

The second step in this study was to examine the building permit systems in Prince Edward Island and in Nova Scotia, to determine the extent to which information was available for the areas under study (all of Cape Breton Island and a specified area of Prince Edward Island were designated). Construction estimates were to be obtained from building permits issued within these areas. The building permit systems themselves are described below.

Nova Scotia

Building permits are issued in Nova Scotia by the many municipal bodies throughout the province (counties, cities, towns, etc.). Although there is a base level of information required, there is no standard permit for the province as a whole. In some cases (as in Sydney), there are no physical application forms for building permits, and the information is entered directly into a computer system.

Generally, information is available on the following:

- name (applicant, builder, architect, etc.)
- area of city, town, county
- use of proposed structure
- type of construction (residential, commercial, industrial, manufacturing, warehouse, church, community centre, others)
- plan number
- size of building, number of plumbing fixtures
- estimated cost of construction.

Information from all permits issued is sent to the Assessments Branch of the Department of Municipal Affairs. Regional offices of this branch maintain a hard copy record for their files. These files are in the process of being computerized: the files in the southern area of the province are currently being transferred to this system. Although it was believed that the information could be obtained most efficiently from the Assessment Branch offices, fieldwork determined that the individual county offices were more appropriate, and the Director of Planning, the Development Officers or Building Inspectors were contacted for the information.

In Sydney, the Metro Planning Office had all the building permits for Cape Breton County. In addition, each month a summary was prepared for Statistics Canada which contained basic information on each permit issued. This summary became the main source of information on tourism-related construction in the county. The individual building permit was accessed only if there was insufficient information in the summary.

It was not possible to gather the information from the other 3 counties directly in the field. In each case the information was requested and a response was forwarded by the official responsible in Port Hood (Inverness County), Baddeck (Victoria Country), and Arichat[1] (Richmond County).

There was no apparent consistency in the matter of government agencies acquiring building permits in Cape Breton Island. It is not clear if and/or when provincial departments sought permits through the regular channels. Several school construction projects obtained permits, for example, but over $200 million of construction was carried out by Sydney Steel, a provincial crown corporation, without a formal permit.

Prince Edward Island

The building permit system in Prince Edward Island is similar in many ways to the system in Nova Scotia, but more advanced technologically. Incorporated municipal bodies issue building permits, and the provincial government issues permits for all other areas of the province through the Department of Community and Cultural Affairs. Information from these permits is sent to the Assessments Branch of the Department of Finance. This department has fully computerized the assessment information, and can generate reports on the basis of different district breakdowns, based primarily on the provincial school districts.[2] However, there was insufficient information in the database to allow separation of the different types of commercial construction (the data did not allow the segregation of tourist facilities from other commercial facilities). To circumvent this, the information was accessed

[1] Richmond County indicated that they did not have the time to respond to the request.

[2] Information could be obtained subsequent to a formal letter of request and approval by the Deputy Minister of Finance. There is a nominal fee levied for the computer programming and computer time.

directly from the Building and Development Services Section of the Department of Community and Cultural Affairs.

In this case, the weekly summary sheets for the entire province were used as the source of information. Building permits were examined for the communities within the boundaries of the area of the national park, identified in Map I. Figures for the specified time period (1 April 1987 - 31 March 1989) were extracted for those projects which were clearly tourism-related.

In Prince Edward Island, some (but not all) provincial government construction appeared in the permit information. The Department of Tourism and Parks appeared to be one of the few departments to apply for and receive building permits.

It is also worth noting that in 1988, the Assessment Branch began to include more information in its database: this should allow the information to be extracted directly. This may prove to be a more efficient method of collecting information for future studies of impact.

1) West Prince
2) Evangeline
3) Summerside
4) Kensington
5) New London
6) Cavendish
7) Brackley/Stanhope/Dalvay
8) Southshore
9) Charlottetown
10) Southeastern Kings
11) Eastern Kings

Map 1

CONSTRUCTION COSTS

Information obtained through the examination of building permits indicated considerable commercial construction during the period April 1987 through March 1989, in both areas being studied: Cape Breton and the North Shore area of Prince Edward Island. There are two aspects to the selection of a time period that should be noted, however. First, a building permit may be obtained some considerable time prior to actual construction, creating a lagged effect between permit acquisition and the incurring of costs. It has been assumed that any carryover from the start of the study period is not significantly different from any that occurs at the end of the period.

Secondly, investment occurs in a cyclical manner, responding to changing conditions and, for any single facility, not spread over several years. Most investments occur in a short period of time. Because of its cyclical nature, when a short period of time is used to gather this type of information, many investments are going to be excluded (for example, all facilities that were built before the study period). The construction cost information obtained, therefore, does not necessarily reflect the level of infrastructure, facilities and services available in the areas under study.

From the information collected, figures were summarized for each county and province and by the type of tourist facility constructed. In creating these summaries, however, it was necessary to categorize the facilities into 3 groups:

1. Possibly Tourism-Related
   * facilities which tourists might use, but which would have been built to satisfy local demand in any case;

2. Clearly Tourism-Related
   * facilities built primarily for use by tourists;

3. Clearly Tourism-Related and Park-Related
   * tourist facilities which were built to satisfy a demand by Park visitors (primarily by virtue of the facility's proximity to the Park).

Cape Breton

Table 1 presents information on total commercial construction costs in Cape Breton for the period under study. This table shows that total commercial construction in Cape Breton is significant: $11,352,000 for 1987-88; and $25,588,000 in 1988/89. These figures represent 6.4% and 12.3% of the provincial total of commercial construction for these two years, respectively.

Table 2 indicates the figures for tourism-related construction in each of the 4 counties[3]. Because of its location (not adjacent to either national heritage site), Richmond County would have had no tourism-related construction designated as Park-related. Consequently, the lack of figures for this county is not critical to the results of this study.

Table 2 shows that little of the total "Possibly Tourism-Related" investments are "Park-Related". In the case of the Fortress of Louisbourg National Historic Park, no construction in the time period could be directly attributed to the Park. There are few facilities in the immediate area, and apparently there was no construction during the studied time frame. Cape Breton Highlands National Park, however, poses a different situation. Some of the "Tourism-Related" construction could be designated as "Park-Related: two developments at Neil's Harbour, one in Dingwall, and six in Ingonish. These developments are related to the Park because of their proximity to Park boundaries and the types of services they provide.

Information supplied by Inverness County did not include the location of any of the developments. As a consequence, it was impossible to determine which of the construction projects were clearly park-related. To get around this problem either an assumed amount could be attributed to the park (eg. same proportions as for Victoria County), or it could be assumed there were no investments directly related to the park. Further discussions with County officials, suggested that the latter assumption was correct. The Building Inspector believed that although the Park assisted businesses in the immediate area, especially those in Cheticamp, there was nothing to suggest that any of the construction would not have occured in the absence of the Park.

The Park-Related construction costs for Victoria County represent 22.4% of the "Clearly-Tourism-Related" expenditures for 1987/88 and 44.6% of these expenditures for 1988/89.

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[3] The completed forms with the building permit information are on file with the Socio-Economic Branch of the Canadian Parks Service.

Table 1

Value of Commercial Construction in Cape Breton, by County
1 April 1987 - 31 March 1989 ($'000)

Month/Year	County				Cape Breton Island	Nova Scotia
	Cape Breton	Inverness	Richmond	Victoria		
April 1987	254	502	60	0	816	5,972
April 1988	427	189	10	0	626	7,945
May 1987	620	140	600	0	1,360	15,610
May 1988	1,338	95	795	45	2,228	19,719
June 1987	1,892	0	0	29	1,921	24,524
June 1988	0	0	0	0	0	15,175
July 1987	1,062	5	72	200	1,339	17,793
July 1988	1,560	0	24	13	1,597	18,766
August 1987	228	30	27	0	285	11,617
August 1988	752	80	95	0	927	21,289
September 1987	963	164	88	0	1,275	9,661
September 1988	2,026	252	17	930	3,225	14,848
October 1987	795	40	36	0	871	11,235
October 1988	3,640	358	37	175	4,210	25,136
November 1987	770	0	37	0	807	11,127
November 1988	840	653	14	0	1,507	14,601
December 1987	673	191	19	37	920	31,356
December 1988	506	1,200	10	7	1,723	20,258
January 1988	184	0	0	150	334	10,566
January 1989*	7,532	n.a.	n.a.	n.a.	7,532	20,038
February 1988	736	0	0	0	736	6,326
February 1989	160	n.a.	n.a.	n.a.	160	10,259
March 1988	736	0	0	0	736	20,443
March 1989	1,412	230	77	90	1,809	19,421
Annual Totals						
1987/88	8,789	1,208	939	416	11,352	175,230
1988/89	20,193	3,057	1,079	1,259	25,588	207,455

* Statistics Canada changed the method of calculation from a "county basis" to an "urban" (over 10,000 population) and "rural" basis. The figures for Cape Breton County reflect Sydney only. The figures for March 1989 are adjusted to redistribute total investment proportionally across all counties and, therefore, are estimates only.

Source: Statistics Canada, Building Permits, Cat. no. 64-001, monthly.

Table 2

Value of Tourism-Related Construction in Cape Breton Island
1 April 1987 - March 31 1989, by County and by Year (5)

County	Year	Possibly Tourism-Related	Clearly Tourism-Related	Tourism and Park Related
Cape Breton	1987/88	1,772,756 (14)	340,754 (6)	--
	1988/89	2,358,736 (19)	1,588,868 (6)	--
Inverness	1987/88	1,684,500 (16)	940,000 (7)	--
	1988/89	3,022,000 (17)	2,152,000 (10)	--
Richmond	1987/88	n.a.	n.a.	--
	1988/89	n.a.	n.a.	--
Victoria	1987/88	571,000 (17)	380,000 (13)	85,000 (4)
	1988/89	1,735,000 (15)	875,000 (13)	390,000 (5)
TOTALS*	1987/88	4,028,256 (47)	1,660,754 (26)	85,000 (4)
	1988/89	7,115,736 (51)	4,615,868 (29)	390,000 (5)

* excluding Richmond County

Figures in parentheses ( ) indicate the number of building permits issued.

Note: facilities included in each category were:

"Possibly Tourism-Related" - fish shop, addition to Legion, fish plant, grocery store, fish hatchery, gas station, shopping centre, pizza parlour, convenience store, plus other name-brand retail outlets in urban centres (Swiss Chalet, A&W, Dairy Queen).

"Clearly Tourism-Related" - cabins, motel, hotel, rental cottages, gift shop, attractions, museum, recreation/entertainment facilities, car rental, and others such as gas stations, stores, coffee shops, restaurants located in places serving primarily the travelling public.

"Park-Related" - any tourist facility which is aimed at serving the tourists and which, because of its proximity to the Park, relies upon Park visitors for business.

Table 3 presents a breakdown of the total construction expenditures for Clearly Tourism-Related expenditures, by type of facility and county and for each year.

Table 3

Construction Expenditures "Clearly Tourism-Related" by Type of Facility and County ($)

County	Accommodation	Food/ Beverage	Retail*	Transportation	Recreation/ Entertainment
Cape Breton					
1987/88	34,000	--	65,740	47,190	193,824
1988/89	1,527,686	--	61,182	--	--
Inverness					
1987/88	845,000	45,000	--	--	--
1988/89	1,552,000	600,000	--	--	--
Richmond					
1987/88	n.a.	n.a.	n.a.	n.a.	n.a.
1988/89	n.a.	n.a.	n.a.	n.a.	n.a.
Victoria					
1987/88	153,000	197,000	20,000	10,000	--
1988/89	670,000	80,000	45,000	30,000	50,000
TOTAL					
1987/88	1,032,000	242,000	85,740	57,190	193,824
1988/89	3,749,686	80,000	106,182	30,000	50,000

* includes crafts.
n.a. = not available

Tables 2 and 3 show that Cape Breton County accounts for the majority of commercial construction. However, much of that construction is in and around the Sydney area (Sydney, North Sydney, Sydney Mines, New Waterford, Glace Bay and points in between). As the major industrialized area of Cape Breton and the largest population centre, this area would normally attract this type and level of investment. Breaking out those facilities which

were built because of tourism demand as opposed to local demand poses a serious problem, which is not easily resolved. For example, is the construction of an A&W restaurant, a Swiss Chalet restaurant or other fast food outlets the result of tourist demand or in response to local resident demands? A business survey of those making these investments in tourism-related sectors is probably the only method of answering this question satisfactorily.

These two tables also indicate that while clearly there is variation from year to year, accommodation is the largest category of investment being made. Food and beverage investments are also substantial.

Table 4 presents the same information as Table 3 for those investments which are Park-Related. Because they had no investments which were identified as being clearly attributable to the Park, there are no values for Richmond, Inverness and Cape Breton counties.

Table 4

Park-Related Construction Expenditures, Victoria County by Type of Facility ($)

Year	Accommodation	Food/ Beverage	Retail*	Transportation	Recreation/ Entertainment
1987/88	--	75,000	--	10,000	--
1988/89	320,000	50,000	20,000	--	--

* includes crafts.

While the amounts shown in Table 4 indicate that no investment was made in and around the Fortress of Louisbourg National Historic Park and that $475,000 ($85,000 in 1987/88 and $390,000 in 1988/89) was invested in the area around Cape Breton Highlands National Park, these figures do not realistically describe the importance of the two parks in the area

investment decision-making process. Recent studies[4] indicate that the national parks play a significant role in attracting tourists to Cape Breton. In addition to studies such as these, local representatives of tourist associations and government officials interviewed made it clear that the two parks are feature attractions for large numbers of visitors to the area. Although it is impossible at this point to suggest the extent to which other tourism investment in Cape Breton can be attributed to the two parks, it would be safe to say that their influence on investment decisions is probably greater than indicated by the figures shown in the tables.

Prince Edward Island

The information collected for the area around Prince Edward Island National Park differed somewhat from the material gathered in Cape Breton. First, the information was not collected on a county basis. Although the area around the Park comprises considerably less than a county, it actually lies within two counties (the majority in Queens County, the remainder in Prince County). Second, the area of study was fairly small, and allowed for the specification of communities to be included in the analysis.

Examination of weekly summaries of building permit and construction activities permitted the selection of only those permits which were clearly related to tourism. The majority of commercial permits issued in this area were related to tourism. The detailed information gathered from building permits in P.E.I. are also on file with the Canadian Parks Service. The total value of construction for this two year period in this area for tourism related facilities was $6,443,200, with yearly totals of:

1987/88 - $3,895,900.
1988/89 - $2,547,300.

Table 5 breaks this information down by type of construction. As can be seen, accommodation is the largest single area of investment, with recreation or entertainment ranking second at a considerably lower level.

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[4] Cape Breton Travel Market Study 1988, prepared for Enterprise Cape Breton Corporation by Corporate Research Associates Inc. and D. Murray and Associates Inc., Cape Breton Highlands National Park Marketing Study, Phase I Market Situation Analysis, and Phase II Integrated Marketing Strategy, for Canadian Parks Service are examples of these studies.

It is difficult to assess the proportion of this construction expenditure which can be attributed to the Park. Because these expenditures were made in vary close proximity to the Park, a case could be made that the full amount is Park-related. However, there is a significant tourism infrastructure already established around Prince Edward Island National Park which may itself attract visitors and thus account for this level of construction activity.

Table 5

Tourism Construction Costs by Type
Prince Edward Island Study area, 1987/88 and 1988/89

Category	1987/88	1988/89	2-Year Total
Accommodation	2,683,200 (22)	1,676,000 (26)	4,359,200 (48)
Food/Beverage	320,500 (12)	373,300 (12)	693,800 (24)
Retail (incl. crafts)	327,200 (12)	92,000 (6)	419,200 (18)
Transportation	240,000 (1)	0	240,000 (1)
Recreation/Entertainment	325,000 (6)	406,000 (9)	731,000 (15)

Figures in parentheses ( ) indicate the number of building permits issued.

A recent study[5] examined the importance of PEI National Park to the provincial economy, including a detailed review of expenditure patterns of non-resident visitors to the Park. From the overall results of that study, it emerged that the expenditures of over forty percent (46.6%) of non-resident PEI National Park visitors were attributable to the Park.

[5] Prince Edward Island National Park Economic Impact of Visitor Expenditures, P.G. Whiting and Associates for the Canadian Parks Service, 1989.

Because these expenditures represent the sales of tourism facilities and services, it seems logical to suggest that investments in these facilities could be attributed to the Park in the same proportions. Without the benefit of the investor's knowledge and motivation, it is deemed appropriate to use this percentage (46.6%) to estimate the amount of investment that is directly Park-related. When this percentage is applied to the figures from Table 5, the dollar estimates attributable to the Park can be calculated, as shown in Table 6. The total amount attributable to the Park for the two years combined is approximately $3 million.

Table 6

Tourism Construction by Type for PEI Study Area Attributable to PEI National Park, 1987/88 and 1988/89 ($)

Category	1987/88	1988/89	2-Year Total
Accommodation	1,250,371	781,016	2,031,387
Food/Beverage	149,353	173,958	323,311
Retail (incl. crafts)	152,475	42,872	195,347
Transportation	111,840	0	111,840
Recreation/Entertainment	151,450	189,196	340,646
TOTAL	1,815,489	1,187,042	3,002,531

As in Cape Breton, PEI tourism industry officials believe that the Park is more important than the figure of 46.6% used to calculate attributable construction suggests[6]. The exact measure of significance is not known: to determine the level of attribution, it would be best to conduct a business survey of the individuals and firms making the actual investments. It is reasonable to say, however, that the attributed amount of $3 million invested in the study time period is probably a conservative estimate: the value could be much higher.

Provincial Government Expenditures

It was difficult to calculate construction costs incurred by provincial governments resulting from the existence of the three Canadian Parks Service sites under study. The agencies most likely to incur costs are the departments dealing with tourism and with highways.

In Cape Breton, neither of these departments indicated having made any expenditure because of the Fortress of Louisbourg National Historic Park or Cape Breton Highlands National Park. The tourism department identified no major construction expenditure of this kind, and the highways officials could not attribute any expenditures to the Parks. It was their opinion that all of their expenditures would have been made regardless of the Parks. Although building permit information for Inverness County showed the investment of $500,000 for the construction of a liquor store, it was not possible to determine if this was motivated by tourist demand or local demand. As a result, no amount of provincial government expenditure can be attributed to either of the Parks in Cape Breton.

In Prince Edward Island, however, the provincial tourism department did make a large investment within the study area and time frame: a major new visitor information centre was constructed in the community of Cavendish at a cost of $733,000. Although it is in the immediate area of the Park and will assist a large proportion of visitors to the Park, for the sake of consistency, it will be assumed that 46.6% of the construction cost (i.e., approximately $342,000) is attributable to the Park. In addition, the tourism department has made expenditures in other areas of the province designed to draw tourists away from

[6] For example, in a personal communication, the General Manager of the Tourism Industry Association of PEI expressed the opinion that at least 75% of the investments can be attributed to the National Park.

the congested area of the Park. Although there is some rationale for including these expenditures in the analysis, they have not been incorporated here.

The PEI Department of Highways could not identify any construction projects undertaken as a direct result of the Park during the study time period.

In summary, approximately $342,000 of provincial government expenditures appear to be attributable to the 3 national parks during the specified time period.

Summary

Table 7 summarizes the Park-related construction costs from private and public sectors for the three national heritage locations. From these figures, it appears that approximately $2 million per year spent by the private sector in tourist facilities is directly related to the existence of these Parks.

These figures should be viewed as conservative values, since other sources have indicated that the role of these parks in attracting visitors to the surrounding areas is substantial. In other words, although only a few construction costs are clearly identifiable as associated with the Parks (particularly those in Cape Breton), the Parks have probably contributed to the development of other tourism facilities in the regions.

Table 7 provides a total for the three heritage locations, and shows their obvious differences. Only PEI National Park is associated with a considerable level of private sector construction during the time period studied. Private sector construction costs associated with Cape Breton Highlands National Park represented only 17% of the amount associated with Prince Edward Island National Park. The Fortress of Louisbourg National Historic Park cannot be credited with inducing any private sector investment. It is clear from these divergent results that it would be inappropriate to make generalizations about the Parks' influence on private sector investment for the period under study.

Table 7

Summary of Park-Related Construction Costs by Park, Sector and Year ($)

Park	1987/88	1988/89	2-Year Total
Cape Breton Highlands National Park			
private sector	85,000	390,000	475,000
public sector	0	0	0
Fortress of Louisbourg National Historic Park*			
private sector	0	0	0
public sector	0	0	0
Prince Edward Island National Park			
private sector	1,815,489	1,187,042	3,002,531
public sector	0	342,000	342,000
TOTAL	1,900,489	1,919,042	3,819,531

* Note: the cyclical nature of investments may partially explain the zero values associated with the Fortress, as well as only a two year period of analysis.

DISCUSSION OF FINDINGS

This study was an investigation to determine the level of difficulty inherent in obtaining construction costs from the private sector and provincial governments and in attributing these amounts to the existence of national heritage locations in the area. The following section presents a brief discussion of the findings related to methodology and results.

Methodology

1. Primary Data

The approach used to obtain construction costs (extracting of figures from building permit records) posed some problems, related primarily to the differing systems of filing and retrieval in each of the jurisdictions and to the varying levels of support (both interest and capability) from permit issuing organizations.

The detailed information requested was more difficult to obtain in some areas than in others.[7] In future projects of this type, it will be necessary to allocate sufficient time for a researcher to visit the individual organization offices for the purpose of examining the actual building permits. This is a laborious exercise but one which is required to ensure the capture of complete information.

When the information contained in the Statistics Canada publications is compared with the figures obtained directly from the county offices in Cape Breton, certain anomalies appear. As an example, information supplied by Inverness County differs from the Statistics Canada figures for the county for the two years under study:

	Statistics Canada figures for all commercial construction	Inverness County figures for tourism-related construction
1987/88	$1,208,000	$1,684,500
1988/89	$3,057,000	$3,022,000

[7] The material presented in earlier sections indicates that there are some gaps in these data.

In other words, according to Statistics Canada, the amount of all commercial construction (including tourism-related construction) in Inverness County was less than the amount indicated by the County records for tourism-related construction only. It is not clear which figures are correct, but to determine the cause of the discrepancy exceeds the work of this study. This type of variance substantiates the need to physically examine building permits to obtain reliable information.

2. Attributing Construction Costs to the Presence of CPS Heritage Locations

In the interest of generating conservative estimates of construction expenditures attributable to each of the Parks, lower amounts were attributed than may be realistic. As a case in point, the Fortress of Louisbourg National Historic Park is undeniably a significant tourist attraction for the surrounding area, and must have some investment effect locally. This study, however, could find no indication of expenditures directly linked to the Fortress during the time period examined. This results in no private sector construction expenditures in tourism related facilities being identified with the Park. Surveys of Fortress visitors indicate that visitors are indeed making expenditures in Cape Breton Island, and clearly, the cost of those facilities being patronized by Fortress visitors can in some way be attributed to the Fortress itself.

Secondary sources of information can be used to estimate such attributable proportions (e.g. the proportion of Cape Breton visitors, proportion of expenditures in Cape Breton Island, etc.). However, at some point, verification of these secondary sources (or their calibration) will be required through a survey of those tourism-related businesses undertaking construction projects.

In the case of Prince Edward Island National Park, an earlier study had already largely developed the calculations for attributing expenditures to the Park. Here too, however, a survey of those investing in development would be useful to determine the accuracy of these figures.

Other approaches to estimating attributable construction costs should be considered. In the Atlantic Region Office of the Canadian Parks Service, the Socio-Economic Analysis Section is currently researching the relationship investment to distance from the Park boundaries to help explain private sector construction. This approach may prove to be more generally useful in the future, although it requires even more detailed construction

data than the approach employed in this study. In built-up areas when there are national heritage sites (such as the Halifax Citadel), this locational approach may have no relevance.

Results

As suggested above, the overall results themselves do not adequately reflect the importance to the local tourism industry of the national heritage locations in Cape Breton. Further research on this aspect is required. It is recommended that a business survey of investors be undertaken to obtain information on the following:

1. amount of investment (actual construction costs)
   - to corroborate building permit estimates

2. what costs included
   - to determine if design fees are included or not
   - to determine amount of developer's own labour/services

3. reason for construction
   - to determine perceived opportunity

4. was a market study undertaken
   - to determine knowledge of market
   - to determine relation between local and non-local customers

5. role played by existence of Park in decision-making
   - to determine importance of Park

6. quantification of Park's importance
   - to quantify Park's role in the investment decision.

This sequence of information collection should be adhered to, although the actual phrasing of questions demands careful consideration. This is particularly true in the case where an investor initially sees little or no relationship between his business and the existence of the Park.

The results of this type of business survey would also be useful in corroborating the methods of attributing visitor expenditures to national heritage locations being employed at present. The problem with such a survey of construction projects is that expectations, not actual performance, are being measured. For instance, a facility may be built with the Park visitor market in mind, but actual experience may prove that the local residents are using the facility.

The actual results presented in the earlier sections show that it would be difficult to generalize for all national heritage locations from the results from any single park. The substantial differences between the results for PEI National Park and for the two parks in Cape Breton reflect the real discrepancies in the tourist industries in each of these areas. Tourism infrastructure around the Park in PEI is significant, whereas it is negligible in the Fortress of Louisbourg area or around Cape Breton Highlands. There may be other indicators or approaches which would incorporate these types of differences into their methodologies and thus permit the assessing of the relative importance of national parks upon tourism related construction in overall terms. In other words, some econometric model (such as TIM) which incorporates sales and other variables within an area, may provide a better approach to the obtaining of results which have more general application.

The attempt to include expenditures by provincial governments did not meet with much success. In comparison with private sector construction expenditures, provincial government expenditures were minor. Further, they present an added difficulty in that they require interpretation as to whether they are made because of the existence of the national heritage location. The research conducted during this study indicated that these interpretation are subjective judgements and may not be completely reliable. No further consideration should be given to provincial government expenditures, with the exception of actual tourist services (tourist information centres, etc.).

CONCLUSION

This study has found that some useful results on private sector construction expenditures can be obtained. It was revealed, further, that some of these expenditures can be attributed to the presence of a national heritage location. While the figures contained in this report are useful, further research should be considered into the means of acquiring better information for attributing these expenditures to the Parks under study.

Finally, the induced investments described in this study represent only one very small component of the economic impact of the national heritage locations used for this study. Although this study has shown that there are indeed induced investments, they do not represent a large proportion of these locations' associated economic impacts.

PRIVATE SECTOR CONSTRUCTION EXPENDITURES INDUCED BY SELECTED NATIONAL PARKS

APPENDIX 1

Literature Review

P.G. Whiting and Associates

December 1989

APPENDIX 1

LITERATURE REVIEW

Only those reports or studies which were thought to contain any information on induced investments were included in this literature review. The majority of the reports examined for this study contained no information on induced investments. Information on and from nine reports is presented in this appendix.

1. Evaluation of the Impact on the Canadian Economy of Spending Attributable to National Heritage Locations Administered by Parks Canada, Volume I, Socio-Economic Division, Parks Canada, April, 1983.

This report describes the use of the Statistics Canada Input-Output Model in the estimating of the impacts of visitor and Parks spending on the Canadian economy as measured by:

- final domestic demand
- total domestic output of goods and services
- total income
- value added (GDP at factor cost)
- salaries and other labour income
- employment
- government revenues.

This is a national model, with national impacts being calculated. The national parks information on visitor spending uses the proportions of the Tourism Expenditures Model (TEM) to go from five expenditure categories to 19 categories. These are then allocated amongst the 602 categories in the detailed Statistics Canada Input-Output Model to derive impact estimates.

2. Economic Impact of Tourism in Ontario, 1985, Ontario Ministry of Tourism and Recreation, August, 1988, prepared by Econometric Research Ltd. under the leadership of Dr. A.A. Kubursi.

This report presents the results of an analysis of the expenditures of tourists to Ontario. The model used to estimate impacts is based on the Statistics Canada Input-Output data for the Province of Ontario. No induced investment is incorporated into the model and, in fact, this limitation is referred to in the text: "Exports and investments are exogenously specified and do not respond to changes in other variables of the model" (page 78).

The earlier (1982) analysis of the impacts of tourism in Ontario, studied by the same company, also recognized the limitations of the model used:

> "The static nature of the model with investment taken as fixed will generate impact effects that are often temporary and fall short of the total effects". (page 96).

3. Economic Evaluation Framework for Parks Planning and Economic Impacts of Alberta's Provincial Parks, Volume II: Economic Impacts of Alberta's Provincial Parks, prepared for Alberta Recreation and Parks by The DPA Group Inc., December, 1986.

The input-output model of Alberta was used to derive estimates of impacts (as measured by household income, GDP and employment) from the expenditures of Alberta Recreation and Parks and of park visitors. This study did include a component in visitor expenditures of capital goods (i.e., durable goods such as vehicles and recreation equipment) in addition to actual out-of-pocket expenses. Capital goods were included to determine the relative magnitude and importance of such costs within the overall set of expenditures.

Further, this study included an assessment of the impact/importance of the principal purchases by visitors and by Alberta Recreation and Parks, based on a percentage of expenditures, in the following categories:

- motor vehicles
- wholesale/retail trade
- gasoline and transportation
- foodstuffs
- construction
- business services
- miscellaneous manufactured products.

While the study examines induced investment effects of both visitors and the private sector, the issue is not clearly thought through. The study looks upon provincial parks as retaining Alberta tourist dollars in Alberta. The report summarizes the extent to which private sector induced investment effects are considered:

"Investment by the private sector in commercial facilities could be included if this investment can be shown to be attributable to market opportunities created by the provincial parks. In practice, there is little in the way of commercial facilities established within the parks; investment in facilities adjacent to the parks in response to activities of ARP is not known at this time. However, the small percentage of out-of-province visitors using provincial parks would tend to indicate that the parks are not attracting a significant number of tourists and, hence, private investment in tourist-based services can be expected to be correspondingly low". (page 22).

There are several problems in treating investment in the manner described in this report. First, personal durable goods expenditures (motors, boats, vehicles, etc.) can be used in a large number of different areas and for different purposes. To attribute any proportion of expenditures on these items to the provincial parks is not considered a reliable or particularly valuable exercise. Second, the assumption inherent in this report is that only out-of-province tourists can be included: any investment made for Alberta tourists is not considered a legitimate tourism investment. This exclusion tends to dismiss the notion too easily.

4. Impact of Tourism on Prince Edward Island, Abt Associates, Massachusetts, 1975.

Since one of the areas under study here was Prince Edward Island, this report was reviewed for any possible mention of induced investment effects in PEI tourism. The report was simplistic in its treatment of economic impacts, and used a unique

model which estimated impacts in terms of value added, government revenue and leakages. Greater emphasis was placed on the social impacts and environmental impacts of tourism. In addition, there was considerable emphasis placed on policy recommendations and alternative development scenarios.

5. Assessing the Economic Impacts of Recreation and Tourism, compiled by D.B. Propst, published by Southeastern Forest Experiment Station, Asheville, North Carolina, 1985.

Investment is not addressed in this report or its contributed papers.

6. Economic Evaluation for Provincial Park Investments, Volume I, Methodology, M. Shaffer and Associates Ltd. and Reid Crowther and Partners Ltd. for the B.C. Ministry of Lands, Parks and Housing, October, 1984.

While peripheral reference is made to private sector investment by Parks developments, it is not assessed in the analysis, and no substantive suggestions are made.

7. Tourism Impact Model, Project 5-12-1258, Bureau of Management Consulting, Department of Supply and Services, December, 1975, for the Canadian Government Office of Tourism.

Although this model was developed in 1975, the theory on which it is based is still useful. The model is structured for application at the provincial level. It consists of two sets of equations: 1) various sectoral investment functions (which are estimated econometrically); and 2) current economic impact equations (derived from input-output models).

Concentrating on the investment functions, the investment equations estimate the expected capital feedback which results from current economic activity in each of the tourism related sectors. Investment induced in tourist-related sectors by the spending of tourists (as opposed to local demand) is added to the estimates of impacts (i.e., through the input-output analysis of expenditures). The value of this induced investment is also produced as an output on its own by the model.
The econometric model (investment functions) is based on a series of equations derived by ordinary least squares regression. The dependent variable is investment, and the explanatory variables are:

- sales
- interest rates
- "accelerator" terms.

Investment is determined by the model for four sectors:

* Accommodation, Food and Beverage
* Private Automobile Transportation
* Air Transportation
* Recreation, Entertainment and Other.

Four sets of equations are used to derive coefficients of investment effects. Sales in accommodation, food and beverage "drive" the other sectors (as well as its own) since total sales in commercial accommodation and restaurants were found to have a high degree of correlation with the level of investment in the other sectors.

Sources of data are Statistics Canada publications and the Bank of Canada. To generate the investment coefficients, regression analysis of the data covering 1960-1974 was undertaken. Once it was complete, the model used Nova Scotia as a test area.

8. Private-Sector Construction in Banff, Jasper and Waterton National Parks in Alberta: Economic Impacts, Thompson Economic Consulting Services for the Canadian Parks Service, May, 1989.

This report presents the results of a study to determine the significance of park-induced spending by the private sector in construction projects within Banff, Jasper and Waterton National Parks. The study was essentially comprised of two steps:

1) the gathering of information on the value of private sector construction through an examination of building permits; and

2) assessment of the economic impact of this spending.

Information was collected on all building permits issued within the national parks only, although these were broken down into different areas of the parks (e.g., Banff townsite; Lake Louise; ski areas; Jasper townsite; etc.). No spending by federal or provincial governments was included in the analysis. Park-induced private-sector developed was assumed to be the following: 1) only residential projects more than $25,000; and 2) all commercial projects.

The period of analysis was 1984/85 - 1988/89, will all construction values converted into 1988 dollars.

Multipliers for residential and non-residential construction were developed and applied to estimate annual impacts from the construction values obtained for each year.

9. Sault Ste. Marie Canal: Socio-Economic Impact Evaluation, Appendix 5, P.G. Whiting and Associates for the Canadian Parks Service, Ontario Region, May, 1989.

Appendix 5 of this report is entitled "Indirect and Induced Investment Effects of the Sault Ste. Marie Canal", and was written with the objective of determining the extent to which the Sault Ste. Marie Canal generated private sector investment in the Sault Ste. Marie tourism industry. There were three approaches used in the gathering of information: Business Investment Decision (interviews with investors);

Total Commercial Construction (analysis of building permits); and Comparative Approach (literature review and application of other study results). Results of these approaches can be summarized:

1) Business Investment Decision
It appeared that tourism investment decisions were being made regardless of the existence of the Canal.

2) Total Commercial Construction
Four years of data were examined (1984 - 1988). Tourism sector construction was identified and valued for each year. The portion of this investment attributed to the Canal was based on the proportion of tourists' discretionary time spent at the Canal in relation to their time spent in the whole City of Sault Ste. Marie (0.9%). The result was a very small level of private-sector investment attributable to the Canal (approximately $26,000 per year).

3) Comparative Approach
Searches revealed that no useful comparable or applicable research was available.

Based on the integration of results from approaches 1) and 2), it was concluded that the Canal had induced only a minimal level of private-sector investment in tourism facilities.